

CLAIMS

What is claimed is:

1. A method of making a primary part of an electric motor, comprising the steps of:
 - a) preparing a modular block with a winding body carrying windings;
 - b) at least partially embedding the winding body in a first molding composition;
 - c) embedding the winding body with the first molding composition in a second molding composition; and
 - d) removing the first molding composition.
2. The method of claim 1, wherein the winding body has a body portion to carry the windings, said step b) including the step of embedding only the windings and the body portion in the first molding composition.
3. The method of claim 1, wherein the first molding composition has a temperature-induced phase transition with a phase transition temperature which is higher than a processing temperature of the second molding composition.
4. The method of claim 1, wherein the first molding composition has a melting point and is removed by heating the first molding composition above the melting point.

5. The method of claim 4, wherein the first molding composition is heated above the melting point by at least one of flowing an electric current through the windings and application of external heat.
6. The method of claim 1, wherein the first molding composition is a wax.
7. The method of claim 1, wherein the second molding composition is an electric potting compound.
8. The method of claim 1, wherein step b) includes the steps of placing the winding body in a first mold, filling remaining voids in the first mold with the first molding composition, and hardening the first molding composition; wherein step c) includes the steps of placing the winding body with the hardened first molding composition in a second mold, filling remaining voids in the second mold with the second molding composition, and hardening the second molding composition; and wherein the step d) includes the steps of liquefying or evaporating the material of the second molding composition, and discharging the material from the second mold.
9. The method of claim 8, wherein the second mold constitutes a housing or a housing part of the primary part.

10. A primary part of an electric motor, comprising:
 - a modular block made of a toothed winding body and consecutively arranged windings applied to teeth of the toothed winding body; and
 - a housing receiving the modular block and implemented as a closed housing to define an interior, said housing including at least one gas inlet and at least one gas outlet, and constructed to include at least one gas flow path formed in the interior of the housing.
11. The primary part of claim 10, and further comprising gas guiding elements arranged along the gas flow path.
12. The primary part of claim 11, wherein the gas guiding elements include turbulence elements.
13. The primary part of claim 11, wherein the gas guiding elements direct a gas flow into a region of the windings and route the gas flow into a region between the teeth of the toothed winding body.
14. The primary part of claim 11, wherein the gas guiding elements are secured to an inner wall of the housing.
15. The primary part of claim 11, wherein the housing has an inner wall constructed to form the gas guiding elements.

16. The primary part of claim 10, wherein the housing is constructed to be gas-tight.
17. A method of making a primary part of an electric motor, comprising the steps of:
- coating at least an inner surface of a first housing part with a hardenable composition to a first predetermined thickness;
- partially placing in the first housing part a modular block, which has a winding body carrying windings, while the composition has not yet hardened;
- coating an inner surface of a second housing part with a composition to a second predetermined thickness,
- attaching the second housing part to the first housing part and the modular block, while the composition coated to the surface of the second housing part has not yet hardened; and
- completely hardening the composition.
18. The method of claim 17, wherein the first and second predetermined thicknesses are each at least equal to or greater than a distance between a coil edge from the inner surface of the housing parts in vertical tooth direction.

19. An electric linear or rotary motor comprising a primary part according to claim 10.
20. A method of making a primary part of an electric motor, comprising the steps of:
- placing a modular block at least partially in a first molding composition;
 - hardening the first molding composition to form a molded structure;
 - embedding the molded structure in a second molding composition;
 - hardening the second molding composition;
 - removing the first molding composition, thereby forming between the second molding composition and the modular block voids for use as gas flow path.